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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/586,991

07/21/2006

Carin Vorde

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EXAMINER

CHAN, HENG M

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

08/31/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/586,991	<b>Applicant(s)</b> VORDE ET AL.	
	<b>Examiner</b> HENG M. CHAN	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 16-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 16-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status of Application***

Applicant's remarks filed 6/15/2010 have been acknowledged. Claims 1 and 16-34 are pending.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The rejection of claims 1, 18, 23, 28, 33, and 34 under 35 U.S.C. 103(a) as being unpatentable over US 5,976,483 to Langlet et al. (herein after Langlet I), in view of WO 99/46202 to Latypov et al. as generally presented in the previous Office action is proper and stands.

The rejection of claims 16, 17, 19-22, 24-27, and 29-32 under 35 U.S.C. 103(a) as being unpatentable over Langlet I), in view Latypov et al. and US 4,559,409 to Seyerl as generally presented in the previous Office action is proper and stands.

### ***Response to Arguments***

Applicant's arguments filed 6/15/2010 have been fully considered but they are not persuasive.

Applicants attacked the combination of Langlet I and Latypov. Firstly, Applicants argued that the present invention adds only guanylyurea, without a neutralizing agent, to the same acid mixture. The Examiner is confused why Applicants argued about adding

Art Unit: 1795

only guanylurea (a neutral compound), while the claimed invention actually claims adding a guanylurea ion (a charged species). Even if Applicants meant guanylurea ion, the Examiner has corresponded the claimed guanylurea ion to the neutralizing agent disclosed in Langlet I.

Applicants insisted that one would not have used guanylurea or guanylurea ion to neutralize the acidic mixture of Langlet I because guanylurea ion is not a base but a weak acid. The Examiner agrees that guanylurea ion is a weak acid. However, the Examiner also notes that guanidium is also a weak acid and is disclosed as an example of the neutralizing agents in Langlet I. The Examiner relied on Latypov that guanylurea ion and guanidium ion are functional equivalents to provide dinitramide salts. The skilled artisan thus would have used guanylurea ion just as guanidium ion in the method of Langlet I to provide guanylurea dinitramide. Applicants should have no reason to question the equivalency of the two, because on page 2 of the specification of the instant application, Applicants recognized that guanidine and guanylurea are functional equivalents that they both provide desirable positive ions to form sparingly soluble ion pair complex with dinitramide ion. Therefore, the Examiner did not transfer information between different processes as Applicants thought, but only considered the similar behaviors of the guanidium and guanylurea ions to conclude that they are equivalent and would have produced expected results.

Applicants then argued that a person of ordinary skill in the art would have had no reason to try to use guanylurea in Langlet I's process since the result would not be expected to be different from what is achieved with guanidine or its protontated form,

guanidium. This seems to contradict with the previous arguments that it would not have been obvious to use guanylurea ion in the process of Langlet I because Applicants actually acknowledge that guanylurea ion and guanidium ion are equivalents. Furthermore, the skilled artisan may have had different reasons to try guanylurea or guanylurea ion, for example, the availability of the compound.

Applicants then argued that when guanidine or guanidium ion are added to the reaction mixture of Langlet I, it does not result in the precipitation of a stable salt but requires further processing in order to extract a solid salt. The Examiner respectfully disagrees. Langlet I teaches the further processing steps as a preferred embodiment to remove inorganic salts and the examples show that the dinitramide salts do precipitate. Furthermore, the precipitation is expected to follow the process when the first two steps are performed.

Applicants then attacked the combination of Langlet I, Latypov, and Seyerl. However, since Langlet I and Latypov make obvious to use guanylurea ion in the process, these arguments against Seyerl individually do not nullify the rejection. Firstly, Applicants argued that cyanoguanidine could not function as a neutralizing agent for the very strongly acidic initial reaction mixture of Langlet I. The Examiner clarifies that the Examiner did not consider cyanoguanidine as a neutralizing agent; rather, cyanoguanidine is a precursor of the neutralizing agent guanylurea ion, which has been shown to be an obvious choice based on Langlet I and Latypov.

Secondly, Applicants argued that one would not seek to combine teachings of Seyerl with those of Langlet I because of the different acids used. The Examiner

Art Unit: 1795

respectfully disagrees. When Langlet I uses ammonium sulfamate in nitric acid and sulfuric acid (Example 7), sulfamic acid is formed. This is the same acid as Seyerl teaches to react with cyanoguanidine to give a guanylurea salt, i.e. a source of guanylurea ion. The Examiner cited Seyerl to provide a means of producing guanylurea ion *in situ* in order to increase yield and purity of the guanylurea dinitramide salt.

Finally, Applicants compared the reaction temperatures of Seyerl and Langlet I. However, the Examiner noted these temperatures are not comparable because that the temperature of Seyerl is directed to the formation of guanylurea ion and that of Langlet I to the nitration reaction to give dinitramidic acid.

### ***Conclusion***

**No claims were found allowable. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENG M. CHAN whose telephone number is (571)270-5859. The examiner can normally be reached on Monday to Friday, 9:00 am EST to 6:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer K. Michener can be reached on (571)272-1424. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer K. Michener/  
Supervisory Patent Examiner, Art Unit 1795

/HENG M CHAN/  
Examiner, Art Unit 1795